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Architectural Education 2012: Prospects and Keepings

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Introduction

The crucial challenges of the architecture and planning designs today: the climatic changes, the fast growing urbanisation of the environments, the financial crisis, the impact of design by computer, the need of knowledge basic designs etc, all these challenges can be the starting point for an architectural education renewal.

Our proposal can be, then, optimistic, in the middle of a very complex and difficult scenario. Sometimes, the worst scenarios can be the seed for radical innovation, and we will try to describe this possibility of positive changes in architectural education, if, and only if, some conditions are accomplished. The work has three parts: first, a pedagogic meditation taking into account the last ideas about how our body and our mind behave in order to know challenges of a general architectural education to day. The second part, it is the consideration of design as a responsive «creative chronotope», using the definitions of the late Russian thinker Mikhail Bakhtin, in order to take advantage of our professional circumstances today. And, finally, the third part, will deal with the institutional aspect of architectural education and with the need for new «scenarios» for more effective schools of architecture in our universities.

First Part: Architectural Education: A Model for a General Education?

Diagram I is a description of the pathologies of wild children, that is, children that have lived in total isolation, with other animal species and without social interaction.

These pathologies, based in scientific analyses starting from the Linneous ideas in the seventieth century AC, share the same place with the pathologies today in children who are

the whole day in front of the virtual world of the computer or that they live in very aggressive environments (see diagram II).[1]

So, architectural education touch upon some very basic dimensions of education and, in some sense, as Aristotle indicated a lot of centuries ago[2] the practice of architects is a perfect model of the wisdom and virtue needed in general education. Architecture is often the lost discipline in general education for children and teenagers. However, as diagram III and IV show,[3] the whole school's curriculum is related to the space and time socio-physical organisation of places built by children. Those places are a «direct representation» of the culture transmitted by each school. These findings are totally confirmed by the large developments of the so call Cognitive Sciences of today.[4] Either the «extended», or the «embodied» or the «distributed» knowledge, introduces again the whole body, and the city, as bases for knowledge, no more confined into the limits of our head, brain or «subject», in order to be «extended», «embodied», or «distributed» in a new human cognitive environment, where computers and internet are very important newcomers.

Architectural and planning design can be, then, a very fundamental dimension of education, both in relation to science, art or ethics, as if the greek origins of architecture would reborn.

All these findings (and keepings) can be summarized as follows.

1) Children are able to coordinate different dimensions of knowledge —art, science or ethics—. This heterochronic ability is specific of men, other living species do not have these abilities at the same degree.[5]

2) Architecture and planning are a cultural dimension of these abilities to coordinate art, science and politics in one single place: building, city, etc. Architectural Education and environmental education should be included in the curriculum in order that the children could be aware of this cultural dimension.

3) Modern knowledge should be «extended», «distributed» in order to avoid the pathological systems described in diagram I and II.

Architectural and urban planning education can help children to uncover the whole body synthesis and the right social interaction in order to know some basic conclusions for a physical, mental and social healthy development and wellbeing survival. At this point, it is useful to notice that the last developments in mathematics, in history, are closely related to the most basic sensory motor developments in early infancy. Nothing to do with the idea that these recent new mathematics offer a different life, on the contrary, they are close to the origins of men. A similar process is happening in fundamental physics.

This general architectonic dimension of education, that has a early development in the Aristotelian definition of «architectonic wisdom» (see diagram V) has consequences in our architectural and urban design «good practices», as is shown by the ten urban indicators of environmental quality used by UNICEF in the child friendly cities program, organized by UNICEF (see diagram VI) with thousands of cities involved. These indicators points out to a healthy, mental, social and physical children integrative development. Architecture and Planning would be then a strong support for it.[6] If education would take seriously into consideration these ten indicators, the spatial dimension would start to have a meaning in children's life. This is not the case today: space participation in children's life is a totally unconscious dimension, both in the head of professors and into the child's head.

This is not an «individual» matter, as diagram VII intends to shows we can «represent» a sociophysical historical situation by a network between objects and subjects like in children's constructions. Of course today the network is very complex and more «globalized», however, it works in a way or other.

Second Part: Architectural and Planning Designs as «creative chronotopes»

The urgent challenges of today: the mental, physical or social health of children, the climate change, the environmental impact of the fast growing gigantic cities, etc, ask for a clear definition of the architectural education fundamental intentions in the next future, since the theoretical and practical complexity of our societies can produce a simplification or an indifference in front those challenges, or what can be even worst: a dogmatic and fundamentalist imposition of one kind of architecture, looking simultaneously to the condemnation of bad architectures (and architects) and to the blessing of some genial architects (star system), with inquisitorial procedures and burocratic and political control of creativity and new ideas.

Inside this dangerous possible scenarios, the ideas of Mikhail Bakhtin look as strong tools for the sake of a critical thinking for all. Diagram VII describes very schematically the structure of a chronotopic creative design as Bakhtin describes it in 1973, two years before he died in 1975.[7]

> «As we have already said, there is a sharp and categorical boundary line between the actual world as source of representation and the world represented in the work. We must never forget this, we must never confuse — as has been done up to now and as is still often done — the represented world with the world outside the text (naive realism), nor must we confuse the author-creator of a work with the author as a human being (naive biographism), nor confuse the listener or reader of multiple and varied periods, recreating and renewing the text, with the passive listener or reader of one's

> own time (which leads to dogmatism in interpretation and evaluation). All such confusions are methodologically impermissible. But it is also impermissible to take this categorical boundary line as something absolute and impermeable (which leads to an oversimplified, dogmatic splitting of hairs). However forcefully the real and the represented world resist fusion, however immutable the presence of that categorical boundary line between them, they are nevertheless indissolubly tied up with each other and find themselves in continual mutual interaction, uninterrupted exchange goes on between them, similar to the uninterrupted exchange of matter between living organisms and the environment that surrounds them. As long as the organism lives, it resists a fusion with the environment, but if it is torn out of its environment, it dies. The work and the world represented in it enter the real world and enrich it, and the real world enters the work and its world as part of the process of its creation, as well as part of its subsequent life, in a continual renewing of the work through the creative perception of listeners and readers. Of course this process of exchange is itself chronotopic: it occurs first and foremost in the historically developing social world, but without ever losing contact with changing historical space. We might even speak of a special creative chronotope inside which this exchange between work and life occurs, and which constitutes the distinctive life of the work.»

The main aspect of designs as a pragmatic creative chronotope is that the three following abstractions, that is: First, relationships between new architecture and the previous environment. Second, the architects design intentions and the new buildings designed. Third, the relationships between the users and the city (the social interaction represented by children in the city they conceived). These three articulations depicted in the diagram VIII can be made «explicit» by the consideration of designs as a creative chronotope. These three connexions between author (architect), work (buildings, cities) and users (dwellers, critics the society as a whole) are tied together by the design itself. Then, again, the architect recover a key responsibility of a synthetic role, however, he should pay the price of make «explicit» the meaning of design in each case. Before explaining the concept of «explicitness» let look to some quotations from Bakhtin's ideas:

> «An artistic work unity in relationship to an actual reality is defined by its chronotope».

> «Therefore the chronotope in a work always contains within it an evaluating aspect that can be isolated from the whole artistic chronotope only in abstract analysis».

> «We are impressed by the representational importance of the chronotope».»And this is so thanks precisely to the special increase on density and concreteness of time markers — the time of human life the time of historical time — That occurs within well-delineated spatial areas».

> «In art, temporal and spatial determinations are inseparable from one another, and always colored by values and emotions». «Living artistic perception makes no such divisions and permits no such segmentation» (only abstract thought can)….»

Now we go back to the concept of «explicitness» defined by Edmund Husserl and enlarged by Jacques Derrida and Paul Ricoeur.[8] By going to the essentials and trying not to enter in a long philosophical discussion, the «explicitness» arouse just at the point of reconciliation between the subject's freedom of creativity and the intersubjective cultural ethical and political responsibility. So «explicitness» is at the kernel of architecture, because defines the combination between physical construction and social meaning worked out by architectural and planning designs.

The intention of Bakhtin with this concept of creative chronotope is just to redefine a bridge between, on the one hand, «my» designs and the presence of «other» subjects in this same design, and, on the other hand, the relation of my singular design and the world before and after my design, or context. In this way, design «explicits» the cultural power that it has, beyond just its physical and compositional technical appearance. And, most important, the environmental impact of each design is tied to the social use and social well being, and to the social ethico-political (critical) energy of it.

The «creative chronotope» constitutes the psychosocial interaction between the work of art and the geographic and historical context where the work exists. As Bakhtin indicates, an animal resist fusion with its environment, but if it is taked totally out of it, it dies. The chronotope defines the equilibrium between the interaction of the animal needs in order to survive, and the need for the autonomy that it needs too.[9]

The use of computer and the most recent mathematical algorithms, do not eliminate the three dimensional dialogical structure described in diagram VIII, on the contrary, the computer can enlarge scientifically, artistically and ethically the possibilities of design as creative chronotope. However the connexions between mathematical, geometric, social and aesthetic order should be made *explicit*, they are not *neutral*. No geometric complex forms, either biological or biosocial, can be explicited by themselves: they need to make interpretation of what all these links mean... A lot research on this subject has been done but a lot is still needed.[9]

Third Part: Which will be the best architectural Education Institutions for creative chronotopic design learning processes?

Again, there are hundreds of possibilities and the general dogmatic rules. Just one rule: the optimisation of the creative chronotopic design abilities. It is not a «wild», «virtual» or

«fundamentalist» view that we should have in mind, but a critical, alive and healthy school, always filled with architecture and theoretical and practical richness. A very utopian scenario but this is just what students need. We can refer to the Architectural Association in London or to the «Ciudad Abierta de Amereida» in Valparaiso in Chile, etc, but we prefer to elaborate a charter of basic conditions in order to encourage institutions, than to point out to models to copy. Some of these basic conditions can be:

A) The fundamental quality of a good school of Architecture is the autonomy, that is the need of freedom of opinion in front of politics, profession, etc. This autonomy has nothing to do with isolation, on the contrary, it is the garanty of useful deep reflection upon the way architectural and planning design develops. This «critical» thinking is totally necessary for a good school and demands not only political independency, but strong ethical energy too. Without this freedom, the schools lose interest and innovative power.

B) Knowledge based design demands interdisciplinary interaction in schools of architecture and urban planning. However this interdisciplinary knowledge in relation to architecture and planning should have the determination we have describe before: the chronotopic creative structures are at the core of this interdisciplinary knowledge. The better this is, the better all the disciplines-either technical or artistic ones-will be useful for a right architectural and urban qualified designs.

   A good example of this interdisciplinary settings is described by the book of Alberto Magnaghi, «The Local Urban Design», inside the «Territorialistic Association».[10]

   Also the recent article of Amos Rapoport about «Designing for people» includes some suggestive conditions of one school of architecture that want to obtain «knowledge based design». However, our conception of «knowledge» is different from the one defined by Rapoport there. Scientific knowledge is important but other dimensions are also needed in the Schools of Architecture today.[11]

C) Good schools of Architecture should contained an architect's dynamic equilibrium between hearth sciences and social sciences, technological and artistic abilities, global determination and local specificities, and, finally, virtual representation and living real entities represented (see diagram VIII).

Each school can follow different ways in order to attain these dynamic equilibriums — or dialogies —, however, the absence of them, decreases the quality of the school and makes education weak and pathological. For instance, an excess of virtuality makes architecture «liquid», «aqueous», «hybrid» and so on, but also meaningless. An absence of virtuality makes the school unable of critical thinking, utopia and innovation.

In our universities today, architectural and urban planning design education, often, take no advantage of the richness of designs as a creative chronotope as it has been just defined. The next three final design examples, briefly presented here, intend to follow the three dialogical dimensions of design (diagram VIII). The course is based upon the analysis of a different medieval villages by each student and the urban and architectural intervention must «dialogue» with the history of the village, with the habitants and with the geographic site. There is no lack of communication in between the new design and the context, however, the new intervention can never copy, reproduce or imitate the existing fabric. The analysis includes geographic, social and archaeological data, and it should enhance the quality of the intervention. Then, the new buildings will start a living and creative intercourse with the historical and geographic context as Mikhail Bakhtin forecast... (see diagrams IX, X, XI). The program of these three proposals is a consequence of the historical, social and geographical analysis of the context where the proposal is ubicated. Neither the representation of a «virtual» new context, nor the «virtual» uses (potential user according to Bakhtin), nor the «virtual» representation of the intentions of the architect (the student of architecture in this case) are *neutral*, they select, underline or intensify some values and, eliminates, underscore and hides others. Then, there is a «responsibility» for that, and this is not against creativity or innovation. On the contrary: *neutrality* (the total void, the «absence» of others and so on) are against architectural creativity.

However, the fundamental fact is the «common ground» personal and social, in between these three representative processes, as diagram VIII shows. This common ground is design considered as a creative chronotope, that is: an interplay between physical and social facts thanks to space and time regulations, that are not *neutral* at all, but filled with intentionality and meaning.

It is relevant, at this point, to take into consideration the subtle way that Bakhtin uses in order to understand the relations between reality and virtuality in the design processes: First, the real life of the author is «tangential» to the design worked out. Second, the real context before any design intervention is different from the context after the new design is built, in similar way that the context is different from the organisms living in it, but, if the context disappears, the living organism died. And third, the «virtual» (potential) user is one of the possible users and there is a dialogical process among all these users. Thanks to these «gabs» in between reality and virtuality, the real life, the feelings and the experience of the author, can inspire the design values, the design can enrich the previous context and, finally, the users can enrich the design after construction, by finding new meanings. These «creative gabs» are produced by the innovative good designs.

However, we insist, these creative gabs are not *neutral* but intentional, and design is never a creative process for the sake of design itself, but a «creative gab» of new relationships in

between reality and virtuality, past and future environments and past and new social life conditions in history. In order to overcome the challenges we just mentioned that we have now in front of us, but we should make «explicit» these chances in each design in a dialogical way, if we really want a healthy life for our children.

Notes

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4. See works by Clark, A., Gallagher, S., Kirsch, D., Hutchins, E.
5. Langer, J. *Et al*. «Early Cognitive Development: Ontogeny and Phylogeny». *Handbook of Developmental Psychology*. Valsiner and Connolly eds. (pags. 141-172), 2003.
6. The Child Aggressive Indicators are defined in the Kaiser Report, San Diego, 2005.
7. Bakhtin, M. *The Dialogic Imagination.* University of Texas Press.
8. Ricoeur, P. *Hermeneutics and the Human Sciences*. Cambridge University Press, 1981.
9. Several disciplines are why now analysing design at a dialogical and interdisciplinary knowledge. See works by Clocksin, W., Murphy, K.M., Kirsch, D. See also EAAE, International Congresses in Copenhagen 2008, Fribourg 2009, and Washington 2010.
10. Magnaghi, A. *The Urban Village*. (Original in Italian, 2000, translated into French and Spanish).
11. Rapoport, A. *Designing for People*, Trialog Review. 106-3/2010.

Diagram I: Wild Children Pathologies

The pathologies of wild children keenly definited by Linneaeus in the XVIIth century were:

a) They do not recognize their images in the mirror.
b) They cannot follow the rhythm of day and night. They have a distorted sleeping pace.
c) They have not developed linguistic, geometric, mathematic, etc. ways of intersubjective communication.
d) They have bad postures in walking, moving, etc.
e) They show emotional disequilibrium and lack of control in social encounters.
f) They do not have sexual identity.

The rehabilitasion of these children depends upon at which age and for how long they haved live alone or with other animals. If its a long time and from birth it is almost impossible to be «normal» again.

Diagram II: Virtual Pathological Children and Agressed Children

Basic Studies	Turning Gold into lead. Vincent J. Felitti Kaiser Institution (San Diego). Dumedin Study. (New Zeland). Bruce Mc. Ewn. Rockefeller University. Frances Champange. Columbia University. Jack P. Shonkoff (Harvard Medical School).
ACE	Divorse of parents and family breakdown. Physical abuse. Lack of emotional support and affection. Sexual abuse and gender violence. Alcoholism and drug addiction in relatives. Isolation, marginalization, discrimination and social violence.
Efects adulthoold	Diseases. Addictions. Anxiety. etc.

Diagram III: *Monological Cities*

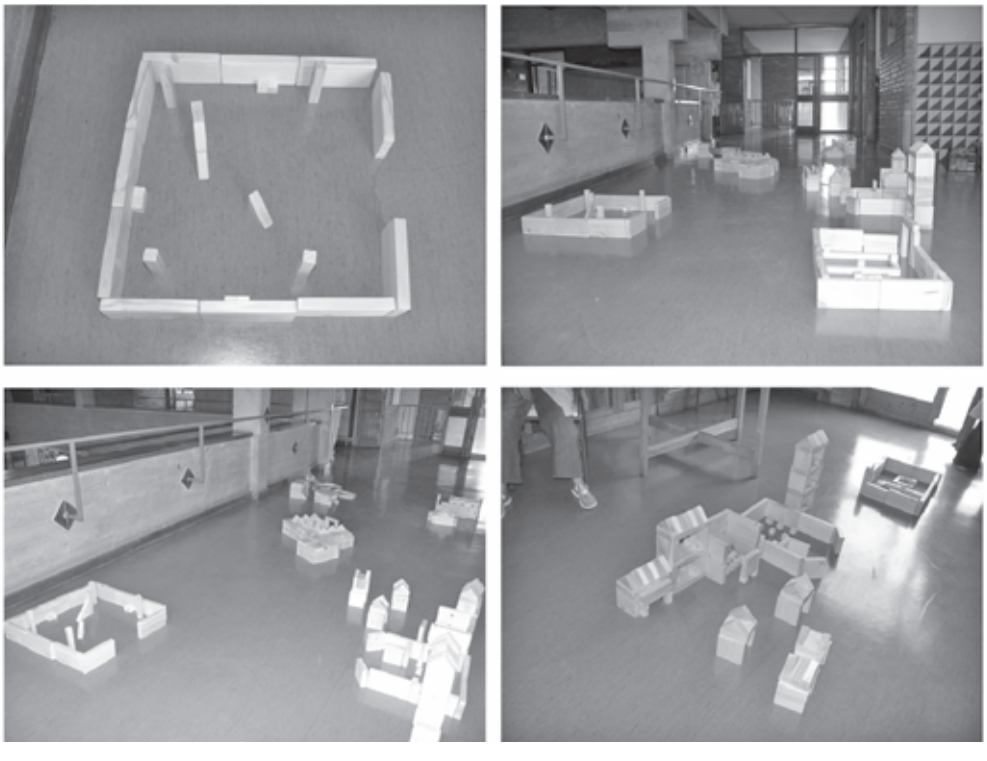


Diagram III: *Monological Cities (continuation)*

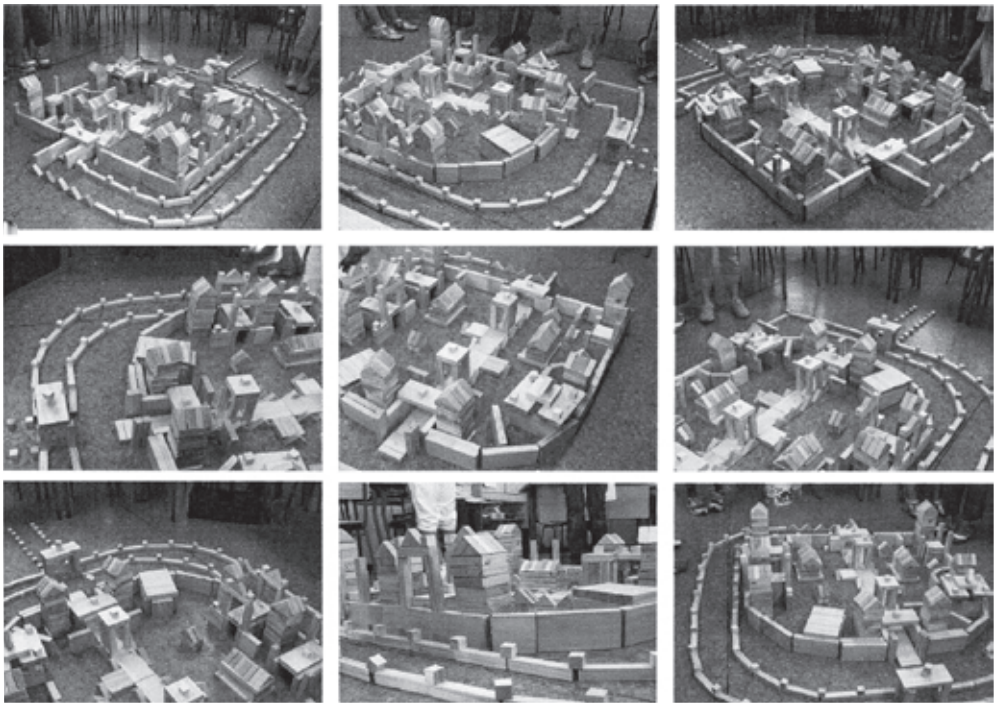
Monologic Cities

Subjects	Objects
S1	01
S2	02
S3	03

Point of view and «voices» are independent of each other.
There is no configuration between subjects and objects.

Physical space & time, and «social» space & time, only relate at the individual level. The objects' relations and the subjects' relations don not correlate.
Norms for objects are independent from norms for subjects.
Objects and Subjects are context free.

Diagram IV: *Dialogical Cities*



Dialogic Cities

Subjects	Objects
S1	01
S2	02
S3	03

Point of view and «voices» are independent of each other.
There is a configuration between subjects and objects.

Physical and social space and time are interrelated chronotopically.
Norms for objects are interdependent of the subjects' norms.
Objects and subjects configure a context.

Diagram V: *The Architectonic Wisdom by Aristotle*

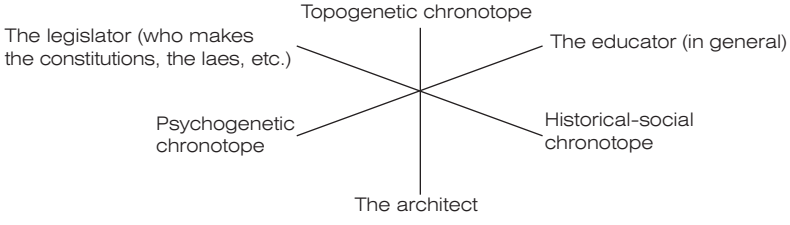


Diagram VI: *Ten Indicators for the urban quality in child Friendly cities UNICEF, (2010)*

Indicator	Theoretical branches (Dig. III)	Definition	Limits & actions
I-1 Noise levels	2, 5, 6	Noise as harmful for children.	Noise Measure Limitation: if it impedes human conversation (40 Db).
I-2 Polution	2, 5, 6	Polution of air, water, earth and materials within a populated area.	Normal environmental controls, e.g. prohibition of asbestos, arsenic, polluted water, etc.
I-3 Electromagnetic Radiation	2, 5, 6	Harmful installation of aerials, highvoltage lines, etc.	Min. Distances. High voltage. Aerials: 200 m.
I-4 Safe playgrounds	4, 1, 6	Playgrounds near residential areas.	Max. Distances between dwellings Max. Size.
I-5 Safe routes between main community areas	4, 3, 6	The importance of daily routes for the community.	Max. 15 min. on foot or 2 km, o well-planned school transportation.
I-6 The school is a dynamic center	1, 3, 6	Schools are open to the community as social agents.	List of major activities at, or around schools
I-7 Public facilities for all ages groups adapted and supervised for children's use	4, 3, 6	Promoting the use of facilities by different age groups.	Public facilities within walking distance.
I-8 Child-friendly public services	4, 3, 6	Adaptation of services for all age groups.	Facilities for the youngest age groups, adequate supervision, information/communication
I-9 Adequate privacy at home and in community	4, 1, 6	To ensure privacy as child grow, is accordance with each age needs.	From 7 y. of a: privacy at home; from 12 y. of a: privacy in quiet spaces and in public areas.
I-10 Juxtaposicion of built areas and the countryside	2, 3, 6	To ensure optimum spacing between built-up areas and countryside.	Min. distances to garden areas or non-asphalted areas. Easy access to countryside.

Diagram VII: *Cultural historical Network in Medieval South of France.*

Diagram VIII: *The three Dialogical Qualities of Design as a Creative Chronotope.*

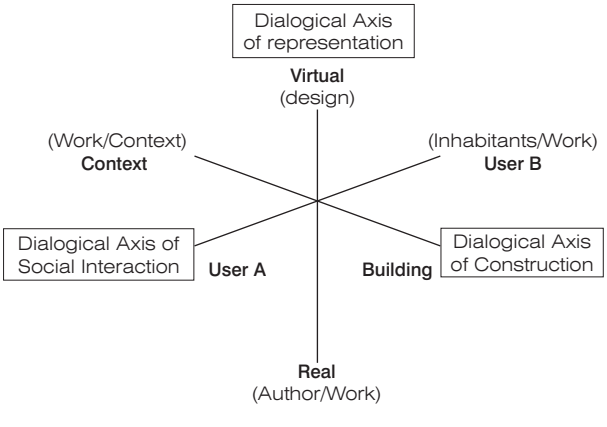


Diagram IX, X, XI: *Three Final Designs.*

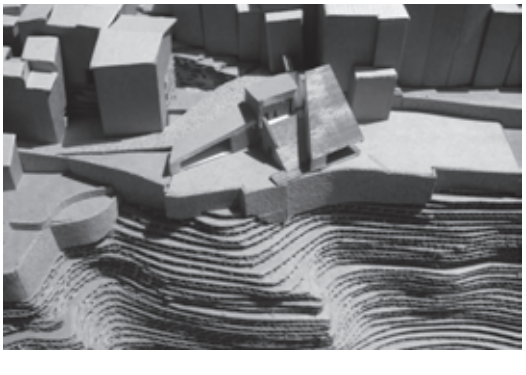
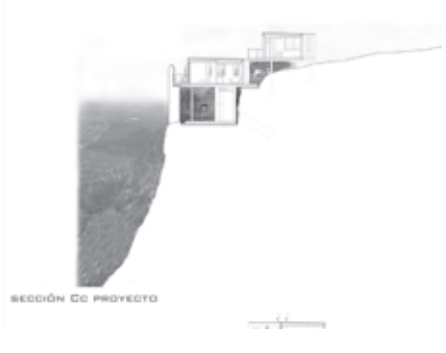
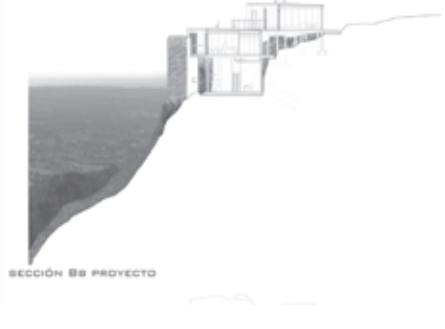


Diagram IX: *Social Center in the medieval town of Llimiana.*
Diagram X: *Hotel inside a Medieval Castle in Santueri.*





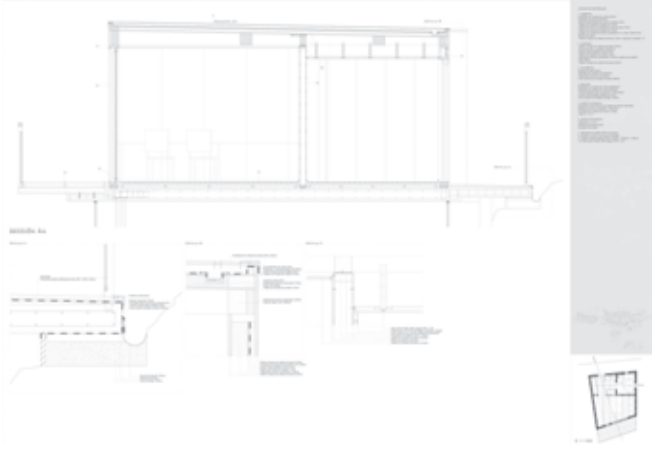
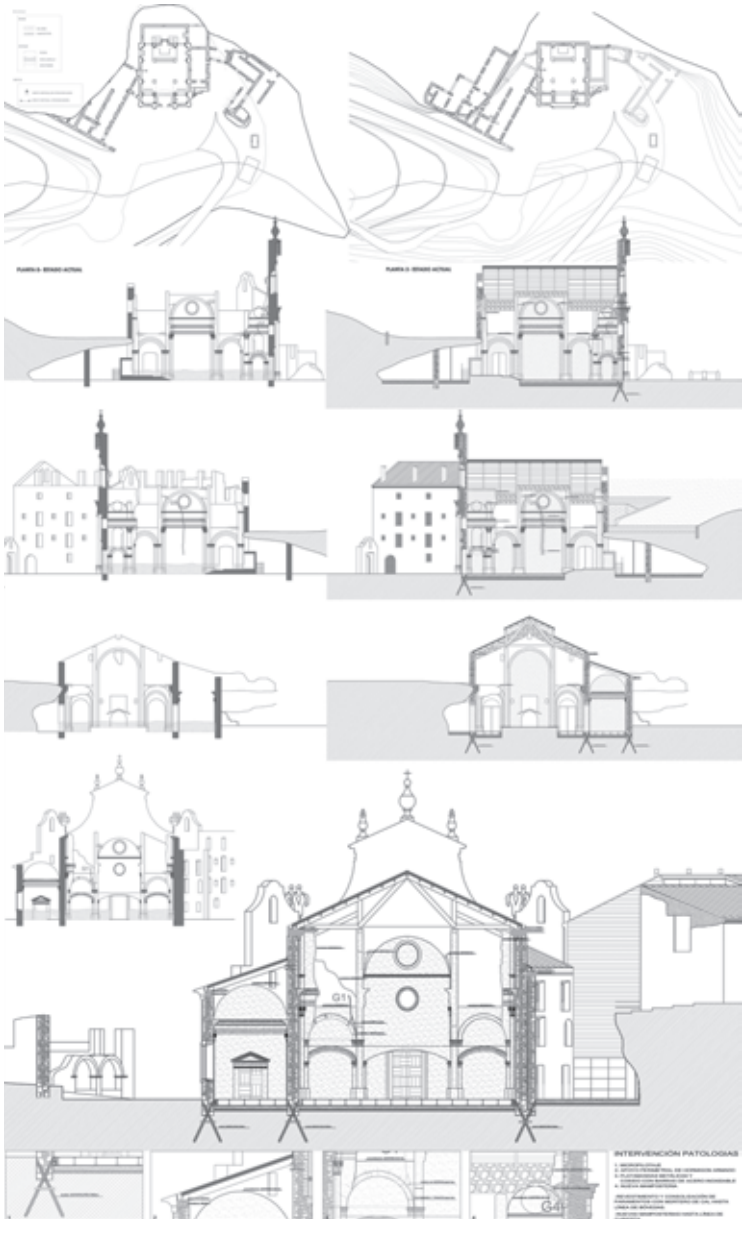


Diagram XI: *International Cultural Center in a Monaster from eighteen Century in La Fresneda.*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